Remediation Weekly Activity Summary Report
Ameren Columbia MGP - Remedial Action

Project Week No.: Twenty
Period: 5/26 - 5/30/2014 **PSC Project Number:** 624-1302-0002
Completed By: Dave Pluhar

General Field Activities Completed: Week Ending May 30

Excavation in the Phase III area continued, the excavation centered on the removal of the contents and the tank wall of the southwest quarter of the Gas Holder No. 2 tank foundation. The tank wall, a brick and mortar structure and limited amounts of process piping and other debris were disposed of with the bulk of the material removed and impacted soil. Monitoring of the temporary structure differential pressure was implemented to monitor and document the performance of the structure ventilation system relative to maintaining a negative pressure on the structure as an emissions control measure. The differential pressure monitoring data is being saved by an automated data logging system which is part of the differential pressure monitoring equipment. The performance of the air filters treating the structure ventilation effluent was also begun. The outlets from the four air handlers are being monitored for total VOC and benzene specific levels. The air filter monitoring is being performed using real-time monitoring equipment on an hourly basis during the work day using an Ultra RAE 3000 photoionization instrument. The Ultra RAE detection limits for VOCs and benzene are 50 ppb.

General Field Activities Planned: Week Ending June 6

Excavations in the Phase III area will continue. Accumulated wastewater will be treated and discharged as necessary.

Air Monitoring Summary: Week Ending May 30

Real-time sampling of the temporary structure air filters was performed by PSC to monitor the VOC removal efficiency performance of the four units. Monitoring and recording of the structure vacuum was also provided by PSC. PSC is also performing hourly real-time monitoring of VOC emissions at the truck gate north of the temporary structure.

Weekly Project Meeting Summary: May 28, 2014

Project Work Update: Gallup is running five trucks each day for soil transportation to the Republic landfill. EOI wants to get Gallup up to seven trucks per day, the issue is the number of respirator certified drivers. Republic has been asked to communicate the need for more respirator certified drivers to Gallup. Excavation work is being conducted in the southwest corner of the Phase III area north of the box culvert and east of the sheet pile wall; this entails the southwest quarter of the Gas Holder No. 2 tank foundation and the contents which have been slightly to moderately impacted. The observed impacts extend into the coal underlying the holder tank floor. EOI has installed a dewatering sump in the stone fill inside the temporary structure north of the new culvert. Accumulated storm water in the stone fill is being pumped and discharged to the storm sewer; this procedure is being used to reduce the volume of water entering the impacted excavation area. Some piping believed to have been associated with the gas holder has been removed; water and tar in the piping was solidified using limestone fines. The gas holder tank bottom is located at approximately 14-feet below the site surface. The gas holder tank wall is a brick and mortar structure, the gas holder tank floor and tank wall footing are concrete. The tank wall varies in thickness from top to bottom from approximately 1.5 to 2.0-feet thick. The holder tank floor was built on the coal seam, the tank floor is approximately one-foot thick. The air handlers are performing well, the pre-filters on the structure outlets to the air handlers are being changed daily, EOI is planning to inspect the particulate filters in the back of the air handler fan compartments on a weekly basis. PSC is procuring the monitoring equipment to monitor the performance of the air handler VOC removal efficiencies, and the differential pressure between the inside of the temporary structure and ambient pressure. Site Safety Update: Work in the structure is generating VOC emissions in the 5 to 20ppm concentration range at the excavation equipment, the general level of VOCs in the structure is in the range from 5 to 10ppm when excavation and loading is occurring. The measured benzene concentrations in the excavation work zone have been in the 1 to 3 ppm range. Based on these monitored air quality data, the crew in the structure are wearing respirators most of the time. Project Issues: The Columbia POTW has asked to collect a water spit sample with PSC during the next treatment/discharge event; PSC will notify the POTW when treatment of accumulated waste water is planned. At this point only approximately 3,000 gallons of untreated waste water is stored onsite. The overhead doors are not opening and closing smoothly, PSC has notified Mahaffey of the difficulties with the doors. Mahaffey has been onsite to adjust the doors which seem to have ongoing problems related to frame movement.

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Material Log

Material Type:	Actual Quantities						Project Estimates	
	Prior Total:	This Period:	Total To Date:	Phase One	Phase Two	Phase Three	Original:	Revised:
Solid Waste Material:								
Soil Waste to Allied Waste, Jefferson City, MO (tons)	18493.23	1572.66	20065.89	12155.43	5699.33	2211.13	30000.00	31500.00
C & D Waste to Allied Waste, Jefferson City, MO (tons)	725.30	0.00	725.30	169.38	555.92	0.00	2500.00	1700.00
MGP Remediation Waste to PDC (tons)	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	0.00
Total All Disposal (tons)	19218.53	1572.66	20791.19	20791.19	6255.25	2211.13	33500.00	33200.00
Clean Material:								
Soil Backfill (tons)	0.00	0.00	0.00	0.00	0.00	0.00	- - -	- - -
1/4-inch Stone (tons)	0.00	0.00	0.00	0.00	0.00	0.00	- - -	- - -
Sand (tons)	0.00	0.00	0.00	0.00	0.00	0.00	- - -	- - -
Rip-Rap (tons)	1932.98	0.00	1932.98	1172.64	760.34	0.00	- - -	- - -
Type 1 Aggregate (tons)	15475.99	0.00	15475.99	11383.23	4092.76	0.00	- - -	- - -
Type 5 Aggregate (tons)	0.00	0.00	0.00	0.00	0.00	0.00	- - -	- - -
One-inch Clean Stone	161.14	0.00	161.14	0.00	161.14	0.00	- - -	- - -
	0.00	0.00	0.00				- - -	- - -
	0.00	0.00	0.00				- - -	- - -
	0.00	0.00	0.00				- - -	- - -
	0.00	0.00	0.00				- - -	- - -
Treated Wastewater:								
Discharged to Columbia Regional WWTP	97770.00	0.00	97770.00				- - -	- - -
Disposed (other)	0.00	0.00	0.00				- - -	- - -

Trucks Transporting:	Monday	Tuesday	Wed	Thursday	Friday	Comments
Disposal	0	5	5	5	5	
Backfill	0	0	0	0	0	

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Sample Collection Summary:

Soil Samples:	Actual Quantities			Project Estimates	
	Prior Total:	This Period:	Total To Date:	Original:	Revised:
VOCs (5035/8260)	128	0	128	180	- - -
SVOCs (8270)	128	0	128	180	- - -
Metals (arsenic, lead, selenium)(6010)	128	0	128	180	- - -
Cyanide, total/amenable (9012)	128	0	128	180	- - -
Per-cent moisture (D-2974)	128	0	128	180	- - -
pH (9045)	128	0	128	180	- - -
TPH GRO (8260)	128	0	128	180	- - -
TPH DRO (8270)	128	0	128	180	- - -
Reactice Cyanide	0	0	0	10	- - -
Reactive Sulfide	0	0	0	10	- - -
TCLP Benzene	0	0	0	10	- - -
TCLP RCRA Metals	0	0	0	10	- - -

Wastewater Samples:					
Ammonia as Nitrogen (EPA 350.1)	5	0	5	25	10
Total arsenic (EPA 200.8)	5	0	5	25	10
Total barium (EPA 200.8)	5	0	5	25	10
Benzene (EPA 624)	5	0	5	25	10
BOD5 (5210)	5	0	5	25	10
Total boron (EPA 200.7)	5	0	5	25	10
Total cadmium (EPA 200.8)	5	0	5	25	10
Total hexavalent chromium (EPA 218.6)	5	0	5	25	10
Total chromium (EPA 200.8)	5	0	5	25	10
Total copper (EPA 200.8)	5	0	5	25	10
Cyanide (SM4500 CN-1)	5	0	5	25	10
Total iron (EPA 200.9)	5	0	5	25	10
Total lead (EPA 200.8)	5	0	5	25	10
Total mercury (EPA 200.8)	5	0	5	25	10
Total nickel (EPA 200.8)	5	0	5	25	10
Oil & Grease (1664)	5	0	5	25	10
pH (4500-HB)	5	0	5	25	10
Phenols (420.2)	5	0	5	25	10
Total silver (EPA 200.8)	5	0	5	25	10
Total Suspended Solids ((2540-D)	5	0	5	25	10
Total toxic organics (EPA 624 & 625)	5	0	5	25	10
Total zinc (EPA 200.8)	5	0	5	25	10

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		Projected Dates			Actual Dates	
General Site Set-up		**Start**	**Complete**		**Start**	**Complete**
	Field Offices Established - 15 days	12/9/2013	1/10/2014		1/7/2014	1/13/2014
	Perimeter Fence & Gates Revised - 3 days	12/9/2013	12/13/2013		12/12/2013	12/13/2013
	Air Monitoring Stations Established - 2 days	12/19/2013	12/20/2013		12/19/2013	12/20/2013
	Baseline Air Sampling Completed - 6 days	12/30/2013	1/4/2014		12/30/2013	1/4/2014
	WWPT System Assembled - 5 days	1/13/2014	1/17/2014		1/15 2014	1/17/2014
	Traffic Control Plan Signs Installed - 1 day	1/6/2014	1/6/2014		1/7/2014	1/7/2014
Ameren Office Building Demolition		**Projected Dates**			**Actual Dates**	
	Asbestos Abatement - 3 days	11/12/2013	11/15/2013		11/12/2013	11/15/2013
	Contents Disposal - 1 day	12/17/2013	12/17/2013		12/17/2013	12/17/2013
	Structure Demolition - 3 days	1/8/2014	1/10/2014		1/13/2014	1/15/2014
	Debris Disposal - 2 days	1/9/2014	1/10/2014		1/15/2014	1/16/2014
Phase One Excavation		**Projected Dates**			**Actual Dates**	
	Phase One Excavation	1/17/2014	2/26/2014		1/17/2014	2/26/2014
	Phase One Backfilling	1/27/2014	3/7/2014		1/30/2014	3/6/2014
Sewer Replacement		**Projected Dates**			**Actual Dates**	
	Pre-Cast Fabrication	2/17/2014	3/12/2014		2/17/2014	3/12/2014
	Staking	3/3/2014	3/4/2014		3/7/2014	3/7/2014
	Contractor Mobilization	3/5/2014	3/7/2014		3/10/2014	3/10/2014
	Existing Culvert Demolitions	3/10/2014	3/12/2014		3/12/2014	3/14/2014
	Excavation & Subgrade Prep	3/13/2014	3/19/2014		3/11/2014	3/14/2014
	West Junction Excavation	3/13/2014	3/14/2014		3/12/2014	3/14/2014
	Install Pre-Cast Sections	3/20/2014	4/2/2014		3/20/2014	3/21/2014
Phase Two "A" Excavation		**Projected Dates**			**Actual Dates**	
	Phase Two Excavation	3/10/2014	3/21/2014		3/7/2014	4/1/2014
	Phase Two Backfilling	3/24/2014	4/4/2014		4/2/2014	4/8/2014
	Old Culvert Demolition	4/3/2014	4/23/2014		3/10/2014	4/11/2014
Phase Three Excavation		**Projected Dates**			**Actual Dates**	
	Temporary Structure Assembled - 12 days	4/29/2014	5/9/2014		5/5/2014	5/17/2014
	Ventilation System Assembled - 10 days	5/7/2014	5/20/2014		5/5/2014	5/16/2014
	Temporary Structure Permit Received - 1 day	5/8/2014	5/8/2014		4/11/2014	4/11/2014
	Structure Inspection Completed - 1 day	5/16/2014	5/16/2014		5/17/2014	5/17/2014
	Phase Three Excavation	5/15/2014	7/15/2014		5/21/2014	
	Phase Three Backfilling	5/27/2014	7/15/2014			
	Structure Disaasembled - 10 days	7/17/2014	7/31/2014			
	Ventiltaion System Removed	7/17/2014	7/18/2014			
	Air Handlers Shipped	7/21/2014	7/22/2014			
	Structure Components Shipped	8/4/2014	8/8/2014			
Phase Two "B" Excavation		**Projected Dates**			**Actual Dates**	
	Phase Two Excavation	8/1/2014	8/14/2014			
	Phase Two Backfilling	8/8/2014	8/14/2014			

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		Projected Dates			Actual Dates		
Site Restoration		**Start**	**Complete**		**Start**	**Complete**	
	Final Site Surface Grading	8/15/2014	8/20/2014				
	Final Site Surface Repair	8/21/2014	9/2/2014				
	Site Fence Revisions Completed	9/3/2014	9/5/2014				
Site Demobilization		**Start**	**Complete**		**Start**	**Complete**	
	Excavation Equipment Demobilized - 2 days	9/3/2014	9/4/2014				
	WWPT System Removed - 2 days	8/18/2014	8/19/2014				
	LP Tank Removed - 1 day						
	Traffic Control Signage Removed - 1 day	9/5/2014	9/5/2014				
	Sidewalk Reopened - 1 day	9/5/2014	9/5/2014				
	Utilities Disconnected - 2 days	9/4/2014	9/5/2014				
	Facilities Removed - 2 days	9/4/2014	9/5/2014				
	Pac-Van Office Demobilized - 1 day	9/5/2014	9/5/2014				

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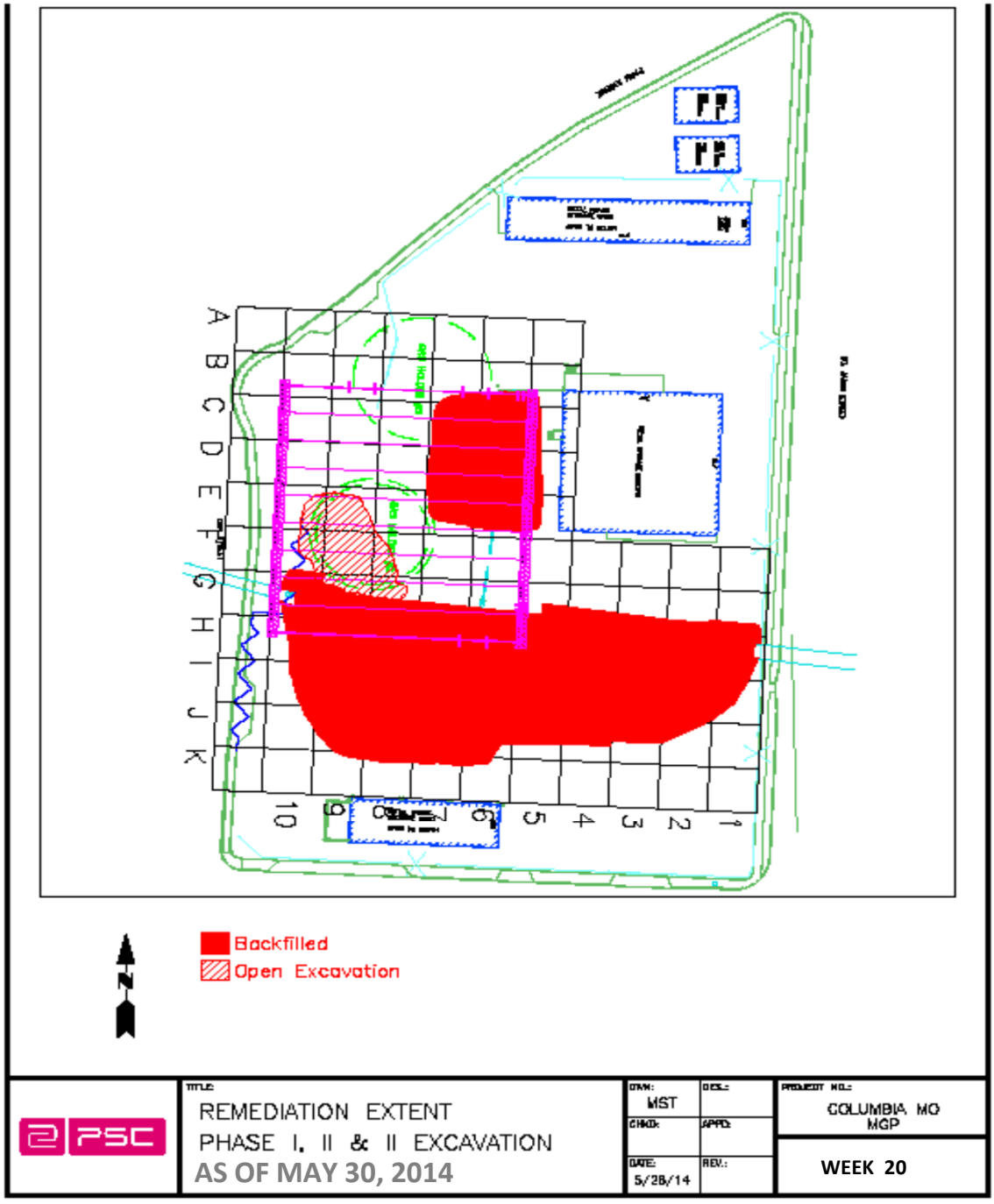

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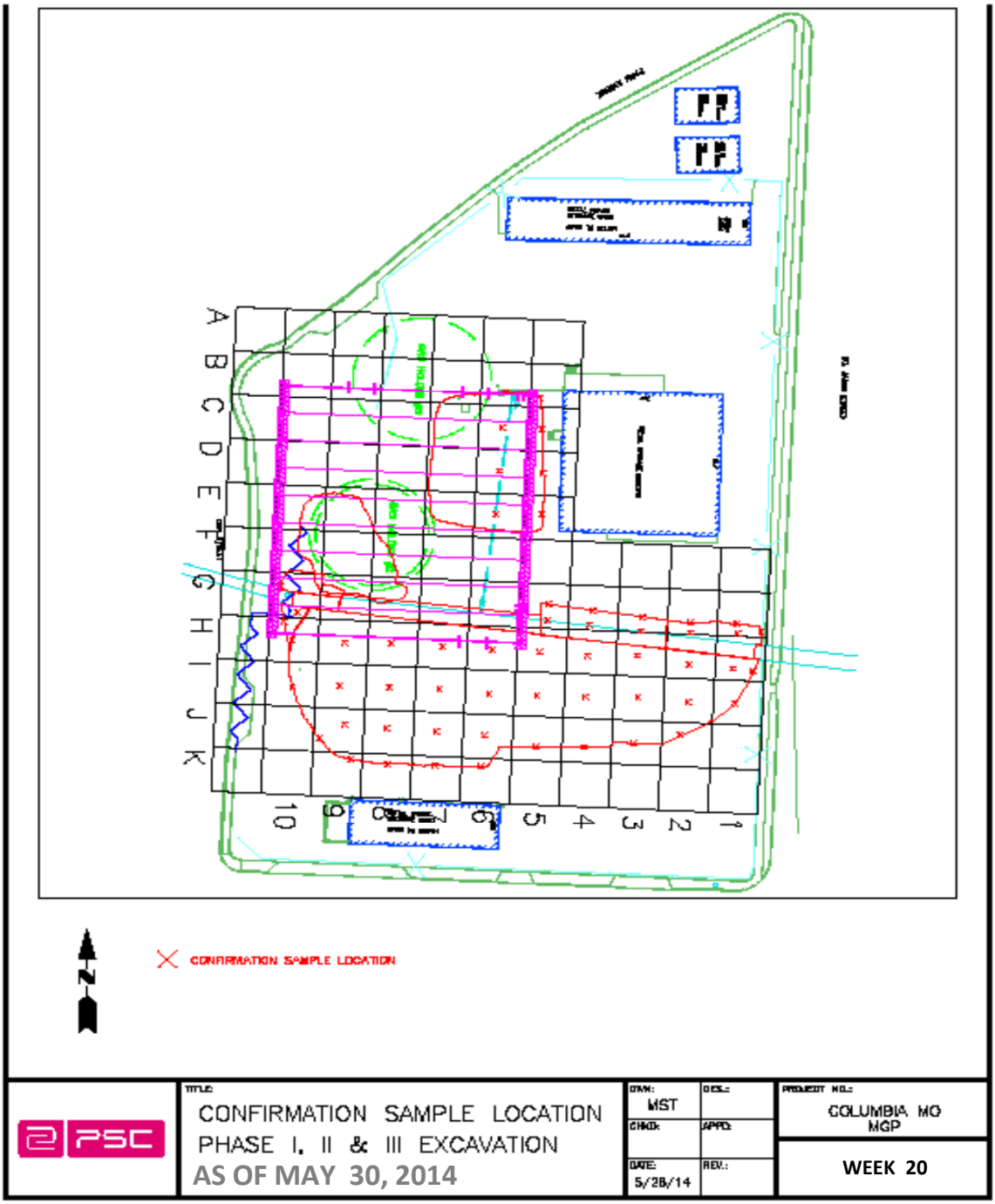

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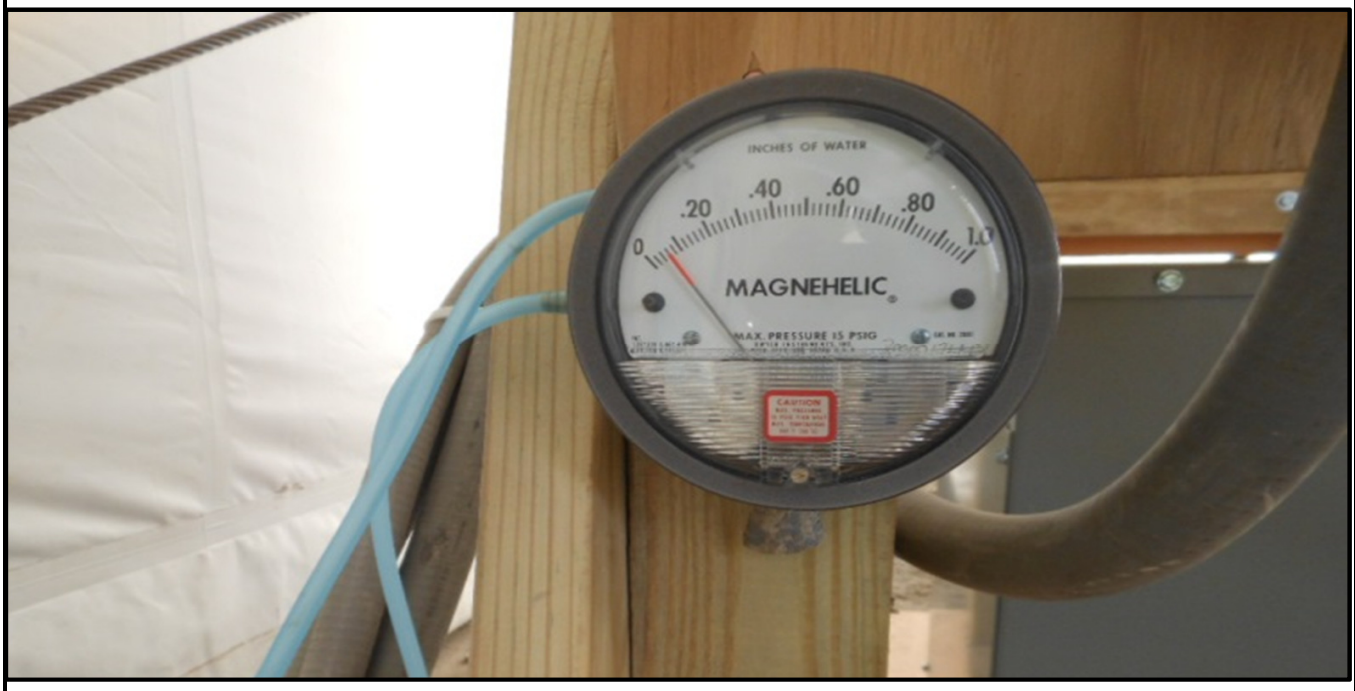
The differential pressure between the temporary structure interior & outside ambient conditions created by the air handler draft is being monitored and recorded by an automated differential pressure monitor/data logger.



A differential pressure magnehelic gauge monitoring the difference between the structure interior and outside ambient pressure is being used as a QA check.

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The excavation work during Week 20 focused on the removal of the gas holder tank and the tank contents

The removal of the gas holder tank proceeded in the southwest corner of the Phase III excavation area east of the sheet pile wall. The sheet pile wall is visible in the left vertical area of the excavation.

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The gas holder tank wall is being removed down to the tank floor which rests on the coal formation present beneath the Site.

The excavation progress mid-week.

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The impacts within the gas holder tank are slight to moderate, and process piping debris has been present in the tank fill material.

A portion of the gas holder tank wall illustrating the thickness of the tank wall - between 1.5 and 2.0 feet thick.